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MORBIDITY AND MORTALITY WEEKLY REPORT

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Perspectives in Disease Prevention and Health Promotion

Trends in Screening Mammograms for Women 50 Years of Age and Older — Behavioral Risk Factor Surveillance System, 1987

Although the American Cancer Society (ACS) and the National Cancer Institute (NCI) recommend that women ≥ 50 years of age have an annual screening mammogram, most have never had one (1). Efforts to increase screening of women for breast cancer include public (2) and private (3) promotional campaigns, legislation to make mammograms a reimbursable service, and educational efforts to increase awareness among health-care professionals (4). For example, the ACS conducted a media campaign from March through May of 1987 to promote screening for breast cancer. In addition, considerable media attention followed the early detection of former First Lady Nancy Reagan's breast cancer by a screening mammogram in October 1987.

To assess whether the media attention to breast cancer screening and the promotional efforts in 1987 were paralleled by increases in screening of women ≥ 50 years of age, CDC analyzed data from 33 states that participated in the 1987 Behavioral Risk Factor Surveillance System (BRFSS). In the BRFSS, state health departments conduct monthly random digit-dialed telephone interviews of adults ≥ 18 years of age throughout the year (5).

Beginning in January 1987, each woman who was interviewed was asked questions about knowledge and health behaviors relating to mammograms. Mammograms done because of a breast problem or a history of breast cancer were not considered screening mammograms. Analysis was also limited to women who had seen a physician for a routine examination in the previous 12 months. After women who had not had a routine examination or who had had mammograms because of a breast problem or a personal history of breast cancer were excluded, the survey group comprised 8402 women.

The results presented here were weighted to account for the age and race distribution of women residing in each state as well as for the respondents'

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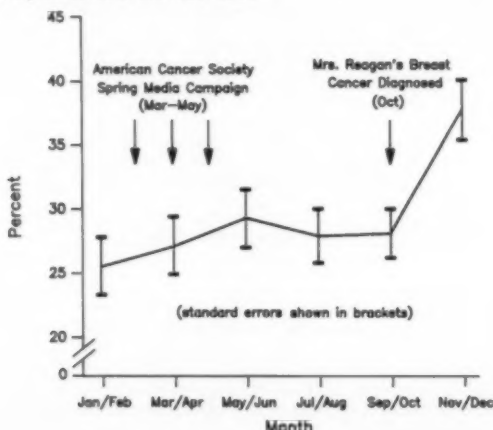
probability of selection. The results, therefore, are representative of the total population of women ≥ 50 years of age who reside in the 33 states surveyed. Based on the 1986 intercensal population estimates, 73% of U.S. women aged ≥ 50 years reside in these 33 states.

Overall, 29% of the study group reported having had a screening mammogram in the last year. When the respondents were grouped by month of interview, the percentage of women who reported having had a screening mammogram in the last year showed a relative increase of nearly 50%, from 26% for women interviewed in January and February to 38% for women interviewed in November and December (Figure 1). The percentage of women who reported being screened increased coincident with the ACS's spring promotional campaign and again after the diagnosis of Mrs. Reagan's breast cancer (Figure 1).

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Editorial Note: The BRFSS information presented here generally agrees with data from other surveys. A Gallup poll conducted in December 1987 showed that 40% of women aged ≥ 40 years had had a mammogram in the previous 1–3 years, an 18% increase from 1983. Similarly, data from the National Health Interview Survey, collected in the first quarter of 1987, showed that 31% of women aged ≥ 40 years had

FIGURE 1. Percentage of women ≥ 50 years of age who had a screening mammogram in the last year, by interview month, 1987



Screening Mammograms — Continued

had screening mammograms, about half within the previous year (6). However, these data also indicated that black women were less likely than white women to have had mammograms.

The importance of screening mammograms for early detection of breast cancer in women and for subsequent reduction of breast cancer mortality is well established. Consequently, the ACS recommends annual mammograms for all women aged ≥ 50 years, mammogram at 1–2-year intervals for women aged 40–49 years, and a baseline mammogram for comparative purposes for women aged 35–39 years (7). In addition, the ACS recommends women begin monthly breast self-examination at age 20 years and receive annual breast examinations by a health-care provider beginning at age 40 years and every 3 years from age 20 to 40 years. NCI recommends a mammogram every 1–2 years for women aged 40–49 years and annually for women ≥ 50 years. NCI also encourages monthly breast self-examination and encourages physicians to do clinical breast examination as part of a periodic examination (8).

Early breast cancer detection is promoted nationwide by the ACS. During the past 2 years, these efforts have been emphasized to alert women and health professionals to the life-saving potential of appropriate screening for breast cancer.

The data from the 1987 BRFSS suggest that the media events and educational activities were accompanied by increases in screening mammograms. Although the observed increases may be related to enhanced public awareness during the ACS spring campaign and after Mrs. Reagan's diagnosis, the BRFSS data only generally support that notion. Baseline data from the BRFSS are not available for comparison, and many other factors (e.g., education, convenience, cost) can influence the response to cancer-control recommendations. Increased understanding of how such factors interact to influence prevention behavior will require more detailed survey information. For example, trends in different locations may vary by time. In states where ACS programs for early detection of breast cancer have been operating longest, increased use of screening mammograms might be expected. Data from the BRFSS regarding geographic patterns of mammogram use would help in examining this hypothesis.

Because many factors may have influenced the increase in the percentage of women who reported being screened, the observed month-to-month changes cannot be directly attributed to any specific events that occurred during 1987. However, the BRFSS data suggest that efforts to promote the use of screening mammograms combined with media attention to the early detection of breast cancer may have resulted in an increased use of screening mammograms during 1987. Increased use of screening mammograms and targeting of cancer-control efforts at lower socioeconomic segments of the population (where cancer risks are often higher and health-care access is more difficult) should result in earlier detection of breast cancer and a subsequent reduction of mortality from breast cancer.

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*Epidemiologic Notes and Reports***Scombroid Fish Poisoning — Illinois, South Carolina**

Scombroid fish poisoning is an acute syndrome resulting from consumption of fish containing high levels of histamine. This report summarizes investigations of two outbreaks of scombroid fish poisoning in Illinois and South Carolina in 1988.

Illinois. On February 26, 1988, eight cases of scombroid fish poisoning occurred in Chicago in five patrons and three employees of a private club who had eaten a buffet lunch. Six of the ill persons experienced symptoms that included headache, nausea, flushing, dizziness, and diarrhea 90 minutes after the meal. The median duration of symptoms was 9.5 hours. Investigation by the Illinois Department of Public Health revealed that seven of the ill persons had eaten mahi mahi with dill sauce; the eighth had eaten the dill sauce scraped from the serving pan that held the fish. Three persons noted that the fish tasted "Cajun," and one stated that it had a hot or spicy taste.

The club had purchased 10.5 pounds of frozen mahi mahi from a suburban Chicago distributor the week before it was served. The distributor's records revealed that fish from one of two lots of mahi mahi had been sent to the club. On March 1, the state health department placed both lots under embargo. The lots included boxes with evidence of freezer burn, a sign of thawing and refreezing, but these boxes were held by the distributor as damaged goods and not used. The Food and Drug Administration (FDA) tested fish from 17 boxes in these lots; no fish from boxes with evidence of freezer burn were sampled. Six samples had histamine levels ≥ 50 mg/100 g (range: 50–160 mg). The fish was kept in the club's freezer at 0–5 F (–15.0 C –17.8 C) until February 26, when it was thawed by placing it under running water for 15 minutes. The fish was then cut into portions, placed flat in pans in the cooler, and baked as needed during lunch until the supply was depleted.

South Carolina. In September 1988, nine cases of scombroid fish poisoning in Charleston were investigated by the South Carolina Department of Health and Environmental Control. Of the nine cases, five occurred after consumption of a midday meal at a restaurant September 9, one case followed an evening meal at a second restaurant September 10, and three cases occurred after an evening meal of fish prepared at home but obtained from the first restaurant.

Scombroid Fish Poisoning — Continued

The median age of the nine ill persons was 55 years (range: 18–64 years); five were women. Illness occurred 5–60 minutes after the meal (median time to onset of symptoms: 38 minutes). Symptoms included flushing, diarrhea, headache, feverishness, nausea, rapid pulse, pruritus, dizziness, vomiting, facial swelling, numbness around the mouth, and stomach pain. Symptoms resolved in all persons within 10 hours (median: 6 hours). Five patients required emergency room treatment, and one was admitted for observation because of underlying cardiac disease.

Two persons noted that the fish had a slight peppery taste, and one person noted a metallic taste. All had eaten yellow-fin tuna supplied by the same local distributor. FDA analyses of two samples from the yellow-fin tuna revealed histamine levels of 728 mg/100 g and 583 mg/100 g, respectively.

The yellow-fin tuna were probably caught 1 day before purchase in waters off the coast of New Jersey, Rhode Island, and Virginia, and were cleaned and packed in ice on the boat. They were then obtained from docks in Cape May and Barnegat Light, New Jersey, by a regional supplier in Philadelphia 3 days before the outbreak. After purchase, the fish were repacked in ice and delivered by truck to Philadelphia, where they were divided into two lots and repacked in ice for shipment to wholesalers. They left the Philadelphia supply plant by refrigerated truck 12 hours after arrival. The wholesaler in Charleston received 188 pounds of yellow-fin tuna from the supply truck 1 day before the outbreak, processed the tuna into steaks, and shipped 17 pounds of steaks from the same fish to each of the two restaurants implicated in the outbreak. Tuna steaks from the same shipment were supplied to 12 other Charleston restaurants, all of which reported receiving the fish in ice. Both implicated restaurants kept the fish packed in ice and refrigerated before it was broiled and served to customers.

One day after the outbreak, a telephone survey of emergency rooms in the Charleston area revealed no other cases suggestive of scombroid poisoning. All restaurants that had received yellow-fin tuna supplied by the Charleston wholesaler from this shipment were notified.

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Editorial Note: During 1973–1986, 178 outbreaks of scombroid poisoning affecting 1096 persons (median: two cases/outbreak) were reported to CDC's Foodborne Disease Outbreak Surveillance System; no fatal cases were reported. Outbreaks have been reported from 30 states and the District of Columbia, with Hawaii reporting the largest number of outbreaks (51), followed by California (29), New York (24), Washington (19), and Connecticut (nine). The fish species was known in 143 (80%) of the scombroid outbreaks; the most commonly reported types were mahi mahi (66 outbreaks), tuna (42 outbreaks), and bluefish (19 outbreaks).

Scombroid poisoning is named for the family Scombridae, which includes tuna and mackerel, but this illness can occur after ingestion of any dark-fleshed nonscombroid species containing high levels of free histidine (1). When these fish are improperly refrigerated, free histidine is broken down to histamine by surface bacteria. This latter compound is thought to produce the clinical manifestations of

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illness (2); hence, some investigators have termed this syndrome histamine poisoning (2).

Illness begins minutes to hours after ingestion of the toxic fish. Symptoms resemble a histamine reaction and frequently include dizziness, headache, diarrhea, and a burning sensation or peppery taste in the mouth. Facial flushing, tachycardia, pruritus, and asthma-like symptoms can also occur. Illness is usually mild and duration is short, making treatment unnecessary. For more severe cases or in patients with underlying medical conditions, oral antihistamines may be beneficial (3). Intravenous cimetidine has been anecdotally reported to ameliorate symptoms but its use warrants further study (4).

Scombroid poisoning is diagnosed by history and clinical symptoms combined with the measurement of histamine levels in implicated fish. Fresh fish normally contains <1 mg/100 g of histamine; levels of 20 mg/100 g in some species have been reported to produce symptoms (5). The FDA has established 50 mg/100 g of histamine as a hazardous level in tuna (6), a level exceeded in both outbreaks in this

(Continued on page 147)

TABLE I. Summary — cases of specified notifiable diseases, United States

| Disease | 9th Week Ending | | | Cumulative, 9th Week Ending | | |
|---|-----------------|--------------|------------------|-----------------------------|--------------|------------------|
| | Mar. 4, 1989 | Mar. 5, 1988 | Median 1984-1988 | Mar. 4, 1989 | Mar. 5, 1988 | Median 1984-1988 |
| Acquired Immunodeficiency Syndrome (AIDS) | 583 | U* | 125 | 5,365 | 4,618 | 1,910 |
| Aseptic meningitis | 69 | 99 | 78 | 686 | 695 | 739 |
| Encephalitis: Primary (arthropod-borne & unspc) | 13 | 14 | 16 | 91 | 124 | 135 |
| Post-infectious | 4 | 4 | 1 | 12 | 13 | 12 |
| Gonorrhea: Civilian | 12,325 | 13,975 | 14,211 | 107,961 | 120,199 | 141,401 |
| Military | 193 | 202 | 279 | 1,833 | 2,244 | 2,936 |
| Hepatitis: Type A | 758 | 539 | 478 | 5,622 | 4,079 | 3,969 |
| Type B | 494 | 559 | 515 | 3,233 | 3,306 | 3,976 |
| Non A, Non B | 49 | 62 | 66 | 373 | 398 | 518 |
| Unspecified | 71 | 39 | 74 | 451 | 347 | 713 |
| Legionellosis | 17 | 14 | 12 | 148 | 145 | 113 |
| Leprosy | 1 | 5 | 7 | 24 | 17 | 39 |
| Malaria | 17 | 21 | 16 | 166 | 116 | 111 |
| Measles: Total [†] | 251 | 53 | 60 | 739 | 318 | 318 |
| Indigenous | 241 | 48 | 54 | 696 | 296 | 274 |
| Imported | 10 | 5 | 5 | 43 | 22 | 43 |
| Meningococcal infections | 75 | 103 | 94 | 540 | 629 | 583 |
| Mumps | 98 | 147 | 98 | 671 | 830 | 607 |
| Pertussis | 23 | 45 | 43 | 295 | 292 | 297 |
| Rubella (German measles) | 3 | 6 | 7 | 37 | 42 | 42 |
| Syphilis (Primary & Secondary): Civilian | 818 | 510 | 510 | 6,617 | 6,073 | 4,942 |
| Military | 2 | 6 | 5 | 48 | 35 | 39 |
| Toxic Shock syndrome | 10 | 7 | 7 | 48 | 49 | 49 |
| Tuberculosis | 357 | 379 | 434 | 2,818 | 2,884 | 2,939 |
| Tularemia | - | 2 | 2 | 9 | 19 | 14 |
| Typhoid Fever | 4 | 6 | 4 | 49 | 57 | 41 |
| Typhus fever, tick-borne (RMSF) | - | 1 | 1 | 18 | 13 | 9 |
| Rabies, animal | 57 | 92 | 84 | 593 | 480 | 685 |

TABLE II. Notifiable diseases of low frequency, United States

| | Cum. 1989 | | Cum. 1988 |
|-----------------------------------|-----------|--------------------------|-----------|
| Anthrax | - | Leptospirosis | 22 |
| Botulism: Foodborne | 2 | Plague | - |
| Infant | 1 | Poliomyelitis, Paralytic | - |
| Other | 2 | Psittacosis (Iowa 1) | 13 |
| Brucellosis (Iowa 1, Calif. 1) | 5 | Rabies, human | - |
| Cholera | - | Tetanus | 7 |
| Congenital rubella syndrome | 1 | Trichinosis (Nebr. 1) | 1 |
| Congenital syphilis, ages <1 year | - | | |
| Diphtheria | - | | |

*Because AIDS cases are not received weekly from all reporting areas, comparison of weekly figures may be misleading.

[†]Nine of the 251 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending March 4, 1989 and March 5, 1988 (9th Week)

| Reporting Area | AIDS | Aseptic Meningi- tis | Encephalitis | | Gonorrhea (Civilian) | | Hepatitis (Viral), by type | | | | Leprosy | Lapro- |
|----------------|--------------|----------------------------|--------------|----------------------|----------------------------|--------------|----------------------------|------------------|--------------|--------------|--------------|--------------|
| | | | Primary | Post-in- fectious | Hepatitis (Viral), by type | | | | | | | |
| | | | | | A | B | HA/HH | Unspeci- fied | | | | |
| | Cum. 1989 | Cum. 1988 | Cum. 1989 | Cum. 1988 | Cum. 1989 | Cum. 1988 | Cum. 1989 | Cum. 1988 | Cum. 1989 | Cum. 1988 | Cum. 1989 | Cum. 1988 |
| UNITED STATES | 5,365 | 666 | 91 | 12 | 107,961 | 120,199 | 5,622 | 3,233 | 373 | 451 | 148 | 24 |
| NEW ENGLAND | 253 | 35 | 3 | - | 3,117 | 3,438 | 120 | 209 | 25 | 17 | 12 | 2 |
| Maine | 18 | 1 | 1 | - | 52 | 84 | 3 | 13 | 4 | - | 2 | - |
| N.H. | 7 | 1 | - | - | 39 | 63 | 24 | 15 | 5 | 1 | - | - |
| Vt. | 2 | - | - | - | 12 | 35 | 2 | 5 | 2 | - | - | - |
| Mass. | 130 | 14 | 1 | - | 1,237 | 1,143 | 43 | 130 | 10 | 14 | 8 | 2 |
| R.I. | 16 | 12 | - | - | 273 | 276 | 1 | 23 | 2 | 1 | 2 | - |
| Conn. | 80 | 7 | 1 | - | 1,504 | 1,837 | 47 | 23 | 2 | 1 | - | - |
| MID. ATLANTIC | 1,439 | 91 | 7 | 1 | 13,541 | 16,979 | 840 | 522 | 38 | 50 | 43 | 1 |
| Upstate N.Y. | 187 | 29 | 5 | 1 | 2,828 | 2,066 | 209 | 124 | 13 | 2 | 14 | - |
| N.Y. City | 731 | 18 | 1 | - | 3,600 | 7,400 | 61 | 143 | 8 | 38 | 1 | - |
| N.J. | 379 | - | 1 | - | 2,493 | 2,753 | 104 | 96 | 10 | 5 | 4 | - |
| Pa. | 143 | 44 | - | - | 4,420 | 4,760 | 466 | 159 | 7 | 5 | 24 | 1 |
| E.N. CENTRAL | 503 | 101 | 31 | - | 18,911 | 20,172 | 310 | 374 | 29 | 11 | 40 | - |
| Ohio | 70 | 27 | 8 | - | 4,586 | 4,764 | 76 | 107 | 4 | - | 23 | - |
| Ind. | 140 | 33 | 9 | - | 970 | 1,876 | 17 | 58 | 1 | 1 | 10 | - |
| Ill. | 166 | 3 | 2 | - | 6,563 | 5,945 | 120 | 48 | 2 | 5 | - | - |
| Mich. | 97 | 33 | 9 | - | 5,851 | 6,317 | 77 | 122 | 14 | 5 | 4 | - |
| Wis. | 28 | 5 | 3 | - | 941 | 1,570 | 20 | 39 | 8 | - | 3 | - |
| W.N. CENTRAL | 141 | 25 | 2 | 1 | 4,978 | 4,760 | 125 | 83 | 12 | 3 | 4 | - |
| Minn. | 27 | 3 | - | 1 | 480 | 664 | 10 | 23 | 1 | 2 | 1 | - |
| Iowa | 18 | 6 | 1 | - | 391 | 372 | 16 | 9 | 4 | - | 1 | - |
| Mo. | 81 | 7 | - | - | 3,080 | 2,627 | 56 | 36 | 2 | 1 | - | - |
| N. Dak. | 1 | 2 | - | - | 18 | 38 | 1 | 3 | 2 | - | - | - |
| S. Dak. | 3 | - | 1 | - | 45 | 102 | - | 3 | 3 | - | - | - |
| Nebr. | 2 | 2 | - | - | 304 | 263 | 23 | 4 | - | - | 2 | - |
| Kans. | 9 | 5 | - | - | 680 | 696 | 19 | 5 | - | - | - | - |
| S. ATLANTIC | 1,201 | 182 | 14 | 3 | 31,284 | 32,814 | 417 | 677 | 52 | 79 | 22 | - |
| Del. | 25 | 5 | - | - | 472 | 472 | 13 | 29 | - | 1 | 3 | - |
| Md. | 128 | 16 | 3 | - | 2,048 | 3,361 | 96 | 117 | 7 | 8 | 8 | - |
| D.C. | 80 | 3 | - | - | 2,230 | 2,106 | - | - | 1 | - | - | - |
| Va. | 131 | 35 | 5 | - | 2,831 | 2,485 | 28 | 59 | 10 | 44 | 1 | - |
| W. Va. | 6 | 2 | 2 | - | 272 | 286 | 5 | 12 | 1 | 1 | - | - |
| N.C. | 91 | 20 | 1 | 1 | 4,846 | 5,093 | 85 | 196 | 22 | - | 6 | - |
| S.C. | 41 | 6 | - | - | 2,903 | 2,389 | 7 | 62 | - | 3 | - | - |
| Ge. | 186 | 10 | - | - | 6,003 | 6,401 | 80 | 62 | 3 | 3 | 1 | - |
| Fla. | 503 | 55 | 3 | 2 | 9,679 | 10,221 | 103 | 120 | 8 | 19 | 3 | - |
| E.S. CENTRAL | 130 | 70 | 7 | 1 | 9,412 | 8,993 | 48 | 239 | 33 | 1 | 4 | - |
| Ky. | 21 | 13 | 1 | 1 | 806 | 799 | 20 | 54 | 11 | - | 1 | - |
| Tenn. | 44 | 9 | - | - | 3,090 | 2,744 | 11 | 129 | 7 | - | 2 | - |
| Ala. | 40 | 39 | 6 | - | 2,873 | 3,243 | 11 | 52 | 15 | 1 | 1 | - |
| Miss. | 25 | 9 | - | - | 2,574 | 2,207 | 7 | 4 | - | - | - | - |
| W.S. CENTRAL | 477 | 33 | 7 | - | 12,265 | 14,247 | 544 | 224 | 24 | 91 | 7 | 5 |
| Ark. | 18 | 3 | - | - | 1,029 | 1,171 | 29 | 10 | 1 | - | - | - |
| La. | 85 | 3 | 1 | - | 2,411 | 3,519 | 39 | 27 | 2 | - | - | - |
| Okla. | - | 6 | 3 | - | 1,205 | 1,165 | 33 | 6 | 5 | 6 | - | - |
| Tex. | 374 | 21 | 3 | - | 7,620 | 8,392 | 387 | 184 | 15 | 86 | 1 | 5 |
| MOUNTAIN | 173 | 26 | 4 | - | 2,260 | 2,537 | 940 | 221 | 36 | 48 | 6 | 1 |
| Mont. | - | - | - | - | 38 | 68 | 10 | 13 | 1 | - | - | 1 |
| Idaho | 2 | - | - | - | 38 | 62 | 41 | 15 | 1 | 2 | - | - |
| Wyo. | 4 | - | - | - | 24 | 35 | 5 | 1 | - | - | - | - |
| Colo. | 63 | 6 | 1 | - | 337 | 639 | 119 | 32 | 11 | 23 | 1 | - |
| N. Mex. | 11 | 4 | - | - | 231 | 258 | 96 | 44 | 7 | 1 | - | - |
| Ariz. | 48 | 11 | 2 | - | 896 | 843 | 523 | 69 | 5 | 18 | 5 | - |
| Utah | 15 | 4 | 1 | - | 89 | 117 | 64 | 15 | 6 | 3 | - | - |
| Nev. | 30 | 1 | - | - | 607 | 515 | 79 | 32 | 5 | 1 | - | - |
| PACIFIC | 1,048 | 153 | 16 | 6 | 12,193 | 16,259 | 2,277 | 684 | 124 | 151 | 10 | 15 |
| Wash. | 104 | - | - | - | 1,000 | 1,232 | 439 | 88 | 26 | 7 | - | - |
| Oreg. | 40 | - | - | - | 465 | 551 | 393 | 56 | 12 | - | - | - |
| Calif. | 901 | 142 | 14 | 6 | 10,475 | 14,105 | 1,206 | 530 | 84 | 142 | 10 | 13 |
| Alaska | 2 | - | 2 | - | 168 | 196 | 208 | 9 | 3 | 2 | - | - |
| Hawaii | 1 | 11 | - | - | 85 | 175 | 31 | 1 | - | - | - | 2 |
| Guam | - | - | - | - | - | 26 | - | - | - | - | - | - |
| P.R. | 255 | 19 | 1 | - | 189 | 268 | 6 | 33 | 2 | 3 | - | 3 |
| V.I. | 15 | - | - | - | 102 | 62 | - | 2 | - | - | - | - |
| Amer. Samoa | - | - | - | - | - | 11 | - | - | - | - | - | - |
| C.N.M.I. | - | - | - | - | - | 7 | - | - | - | - | - | - |

N: Not notifiable

U: Unavailable

C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending March 4, 1989 and March 5, 1988 (9th Week)

| Reporting Area | Malaria | Measles (Rubella) | | | | | Menin- gococcal infections | Mumps | | Pertussis | | | Rubella | | |
|----------------|---------|-------------------|------|--------------|------|--------------|----------------------------------|--------------|------|--------------|------|--------------|---------|--------------|------|
| | | Indigenous | | Imported* | | Total | | | | | | | | | |
| | | Cum. 1989 | 1989 | Cum. 1989 | 1989 | Cum. 1989 | | Cum. 1989 | 1989 | Cum. 1989 | 1989 | Cum. 1989 | 1989 | Cum. 1989 | 1989 |
| UNITED STATES | 166 | 241 | 696 | 10 | 43 | 318 | 540 | 98 | 871 | 23 | 295 | 292 | 3 | 37 | 42 |
| NEW ENGLAND | 12 | 10 | 13 | 5 | 5 | 1 | 43 | - | 8 | 1 | 12 | 50 | - | - | - |
| Maine | - | - | - | - | - | - | 6 | - | - | - | 4 | 11 | - | - | - |
| N.H. | 1 | - | - | - | - | - | 8 | - | 6 | - | 5 | 16 | - | - | - |
| Vt. | - | - | - | - | - | - | 2 | - | - | - | - | - | - | - | - |
| Mass. | 8 | - | - | 31 | 3 | 1 | 16 | - | 1 | 1 | 1 | 16 | - | - | - |
| R.I. | 2 | 10 | 13 | 21 | 2 | - | 1 | - | - | - | 2 | - | - | - | - |
| Conn. | 1 | - | - | - | - | - | 10 | - | 1 | - | - | 7 | - | - | - |
| MID. ATLANTIC | 23 | 5 | 17 | 2 | 16 | 66 | 54 | 2 | 37 | 3 | 29 | 12 | - | 1 | 1 |
| Update N.Y. | 7 | 3 | 3 | 21 | 2 | - | 21 | - | 10 | 3 | 12 | 5 | - | 1 | - |
| N.Y. City | 10 | 2 | 5 | - | 12 | 4 | 15 | - | - | - | - | - | - | - | - |
| N.J. | 3 | - | - | - | 1 | - | 4 | - | 11 | - | 14 | 2 | - | - | 1 |
| Pa. | 3 | - | 9 | - | - | 62 | 14 | 2 | 18 | - | 3 | 5 | - | - | - |
| E.N. CENTRAL | 9 | 19 | 63 | - | 2 | 10 | 56 | 6 | 77 | - | 15 | 30 | - | 2 | 19 |
| Ohio | 3 | - | 44 | - | 1 | - | 31 | - | 8 | - | 1 | 3 | - | - | - |
| Ind. | 1 | - | - | - | - | - | 6 | - | 3 | - | 4 | 8 | - | - | - |
| Ill. | 3 | 19 | 19 | - | - | - | 6 | 6 | 24 | - | - | 3 | - | 1 | 16 |
| Mich. | - | - | - | - | - | 9 | 9 | - | 34 | - | 4 | 7 | - | - | 3 |
| Wis. | 2 | - | - | - | 1 | - | 4 | - | 8 | - | 6 | 9 | - | 1 | - |
| W.N. CENTRAL | 3 | - | 63 | - | 1 | - | 12 | 1 | 214 | - | 7 | 23 | - | - | - |
| Minn. | 2 | - | - | - | - | - | 3 | - | - | - | - | 3 | - | - | - |
| Iowa | - | - | - | - | - | - | - | - | 7 | - | 6 | 9 | - | - | - |
| Mo. | 1 | - | 61 | - | - | - | 1 | 1 | 29 | - | - | 2 | - | - | - |
| N. Dak. | - | - | - | - | - | - | - | - | - | - | - | 6 | - | - | - |
| S. Dak. | - | - | - | - | - | - | 2 | - | - | - | - | 2 | - | - | - |
| Nebr. | - | - | - | - | - | - | 5 | - | 1 | - | - | - | - | - | - |
| Kans. | - | - | 2 | - | 1 | - | 1 | - | 177 | - | 1 | 1 | - | - | - |
| S. ATLANTIC | 34 | - | 88 | - | 3 | 52 | 92 | 14 | 128 | 1 | 20 | 35 | - | - | - |
| Del. | 1 | - | - | - | - | - | - | - | - | - | - | 2 | - | - | - |
| Md. | 9 | - | 4 | - | 1 | 2 | 16 | - | 59 | - | - | 6 | - | - | - |
| D.C. | 3 | - | - | - | 2 | - | 6 | 6 | 29 | - | - | - | - | - | - |
| Va. | 4 | - | - | - | - | - | 10 | 7 | 26 | 1 | 3 | 2 | - | - | - |
| W. Va. | 1 | - | - | - | - | 2 | 2 | - | 3 | - | 1 | - | - | - | - |
| N.C. | 9 | - | 64 | - | - | 1 | 14 | 1 | 6 | - | 10 | 16 | - | - | - |
| S.C. | - | - | - | - | - | - | 8 | - | 3 | - | - | - | - | - | - |
| Ga. | 1 | - | - | - | - | - | 13 | - | - | - | 1 | 7 | - | - | - |
| Fla. | 6 | - | - | - | - | 47 | 23 | - | 2 | - | 4 | 2 | - | - | - |
| E.S. CENTRAL | 2 | - | 2 | - | - | 2 | 20 | 6 | 36 | - | 15 | 8 | - | - | - |
| Ky. | - | - | 1 | - | - | - | 12 | - | 9 | - | - | - | - | - | - |
| Tenn. | - | - | - | - | - | - | - | - | 13 | - | 5 | 6 | - | - | - |
| Ala. | 2 | - | 1 | - | - | - | 7 | - | 3 | - | 10 | - | - | - | - |
| Miss. | - | - | - | - | - | 2 | 1 | N | N | - | - | 2 | - | - | - |
| W.S. CENTRAL | 6 | 187 | 260 | 1 | 9 | 7 | 45 | 56 | 263 | 1 | 4 | 4 | - | 5 | 1 |
| Ark. | - | - | - | - | 2 | - | 1 | 2 | 37 | - | 1 | 2 | - | - | 1 |
| La. | - | - | - | - | - | - | 6 | 32 | 92 | - | - | 2 | - | - | - |
| Okla. | 1 | 10 | 10 | - | - | 7 | 4 | 14 | 58 | 1 | 3 | - | - | - | - |
| Tex. | 5 | 177 | 260 | 11 | 7 | - | 34 | 8 | 76 | - | - | - | - | 5 | - |
| MOUNTAIN | 10 | - | 13 | - | 3 | 104 | 13 | 2 | 26 | 15 | 147 | 69 | - | 1 | 1 |
| Mont. | - | - | 12 | - | 1 | - | - | 1 | 1 | - | - | - | - | - | - |
| Idaho | 2 | - | - | - | 1 | - | - | - | 2 | - | 7 | 57 | - | - | - |
| Wyo. | 1 | - | - | - | - | - | - | - | - | - | - | 2 | - | - | - |
| Colo. | 1 | - | - | - | 1 | 104 | 6 | - | 3 | 4 | 6 | 1 | - | - | - |
| N. Mex. | 1 | - | - | - | - | - | 1 | N | N | - | 1 | - | - | - | - |
| Ariz. | 2 | - | 1 | - | - | - | 6 | 1 | 18 | 11 | 131 | 1 | - | - | - |
| Utah | - | - | - | - | - | - | - | - | - | - | 1 | 7 | - | - | - |
| Nev. | 3 | - | - | - | - | - | - | - | 2 | - | 1 | 1 | - | 1 | 1 |
| PACIFIC | 67 | 20 | 177 | 2 | 5 | 78 | 205 | 11 | 82 | 2 | 46 | 61 | 3 | 28 | 20 |
| Wash. | 1 | - | - | 15 | 1 | - | 9 | - | 9 | 1 | 5 | 10 | - | - | - |
| Oreg. | 2 | - | - | - | - | 1 | 13 | N | N | - | - | - | - | - | - |
| Calif. | 63 | 20 | 176 | 11 | 1 | 73 | 181 | 11 | 68 | 1 | 41 | 32 | 3 | 28 | 17 |
| Alaska | 1 | - | - | - | - | - | 2 | - | - | - | - | 1 | - | - | - |
| Hawaii | - | - | 1 | - | 3 | 2 | - | - | 5 | - | - | 18 | - | - | 3 |
| Guam | - | U | - | U | - | 1 | - | U | - | U | - | - | U | - | 1 |
| P.R. | - | 14 | 72 | - | - | 23 | 1 | - | 1 | 2 | 2 | - | - | 1 | - |
| V.I. | - | - | - | - | - | - | - | - | 2 | - | - | - | - | - | - |
| Amer. Samoa | - | U | - | U | - | - | - | U | - | U | - | - | U | - | - |
| C.N.M.I. | - | U | - | U | - | - | - | U | - | U | - | - | U | - | - |

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable ¹International ²Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending March 4, 1989 and March 5, 1988 (9th Week)

| Reporting Area | Syphilis (Civilian) (Primary & Secondary) | | Toxic-shock Syndrome | Tuberculosis | | Tularemia | Typhoid Fever | Typhus Fever (Tick-borne) (RMSF) | Rabies, Animal |
|----------------|--|--------------|-------------------------|--------------|--------------|-----------|------------------|--|-------------------|
| | Cum. 1989 | Cum. 1988 | | Cum. 1989 | Cum. 1988 | | | | |
| UNITED STATES | 6,617 | 6,073 | 48 | 2,618 | 2,664 | 9 | 49 | 18 | 593 |
| NEW ENGLAND | 273 | 160 | 1 | 81 | 48 | - | 9 | - | 1 |
| Maine | - | 2 | 1 | 1 | 2 | - | - | - | - |
| N.H. | - | 2 | - | 4 | - | - | - | - | - |
| Vt. | - | - | - | 1 | - | - | - | - | - |
| Mass. | 97 | 68 | - | 25 | 30 | - | 4 | - | - |
| R.I. | 6 | 6 | - | 9 | 7 | - | 4 | - | - |
| Conn. | 170 | 84 | - | 21 | 9 | - | 1 | - | 1 |
| MID. ATLANTIC | 1,256 | 1,199 | 8 | 623 | 645 | 1 | 8 | 3 | 94 |
| Upstate N.Y. | 113 | 78 | 1 | 18 | 111 | - | 1 | 1 | - |
| N.Y. City | 618 | 826 | 1 | 439 | 312 | - | 6 | - | - |
| N.J. | 246 | 134 | 1 | 75 | 108 | - | - | - | - |
| Pa. | 279 | 161 | 5 | 91 | 114 | 1 | 1 | 2 | 94 |
| E.N. CENTRAL | 275 | 203 | 10 | 327 | 342 | 1 | 4 | - | 9 |
| Ohio | 20 | 18 | 6 | 65 | 70 | - | - | - | - |
| Ind. | 6 | 17 | 3 | 6 | 27 | - | 1 | - | - |
| Ill. | 137 | 100 | - | 148 | 149 | - | 1 | - | 2 |
| Mich. | 108 | 64 | 1 | 96 | 77 | - | 2 | - | 1 |
| Wis. | 4 | 4 | - | 12 | 19 | 1 | - | - | 6 |
| W.N. CENTRAL | 80 | 31 | 7 | 69 | 75 | 1 | 2 | 1 | 58 |
| Minn. | 5 | 3 | 2 | 18 | 13 | - | - | - | 22 |
| Iowa | 10 | 3 | 1 | 10 | 6 | 1 | 2 | 1 | - |
| Mo. | 30 | 16 | - | 18 | 32 | 1 | - | - | 3 |
| N. Dak. | - | 1 | - | 2 | 2 | - | - | - | 20 |
| S. Dak. | - | - | 1 | 6 | 11 | - | - | - | 5 |
| Nebr. | 10 | 4 | 3 | 4 | 4 | - | - | - | 3 |
| Kans. | 5 | 4 | - | 11 | 7 | - | - | - | - |
| S. ATLANTIC | 2,494 | 2,102 | 4 | 604 | 613 | 1 | 2 | 10 | 189 |
| Del. | 27 | 28 | - | 4 | 5 | - | - | - | 2 |
| Md. | 112 | 110 | - | 44 | 45 | - | - | 1 | 32 |
| D.C. | 166 | 106 | - | 38 | 30 | - | - | - | 1 |
| Va. | 100 | 70 | - | 62 | 83 | 1 | - | - | 47 |
| W. Va. | 3 | 1 | - | 16 | 15 | - | - | - | 14 |
| N.C. | 145 | 135 | 4 | 57 | 40 | - | 2 | 9 | - |
| S.C. | 121 | 111 | - | 70 | 65 | - | - | - | 38 |
| Ge. | 545 | 335 | - | 75 | 90 | - | - | - | 35 |
| Fla. | 1,275 | 1,206 | - | 240 | 240 | - | - | - | 20 |
| E.S. CENTRAL | 431 | 362 | 1 | 221 | 234 | 1 | 1 | 2 | 60 |
| Ky. | 9 | 11 | - | 64 | 70 | 1 | 1 | 2 | 23 |
| Tenn. | 151 | 148 | - | 58 | 48 | - | - | - | 9 |
| Ala. | 184 | 117 | 1 | 88 | 77 | - | - | - | 18 |
| Miss. | 107 | 86 | - | 11 | 39 | - | - | - | - |
| W.S. CENTRAL | 842 | 636 | 1 | 297 | 285 | 1 | 4 | 1 | 91 |
| Ark. | 58 | 22 | - | 34 | 22 | - | - | - | 9 |
| La. | 162 | 113 | 1 | 50 | 50 | - | 1 | - | - |
| Okla. | 12 | 31 | - | 19 | 35 | 1 | - | 1 | 9 |
| Tex. | 610 | 472 | - | 194 | 178 | - | 3 | - | 73 |
| MOUNTAIN | 153 | 119 | 3 | 78 | 47 | 1 | - | 1 | 21 |
| Mont. | - | 2 | - | - | - | - | - | - | 12 |
| Idaho | - | - | 1 | 3 | - | - | - | - | - |
| Wyo. | 1 | - | - | - | - | - | - | - | 1 |
| Colo. | 6 | 17 | - | - | 12 | 1 | - | 1 | - |
| N. Mex. | 4 | 13 | 1 | 14 | 14 | - | - | - | 5 |
| Ariz. | 39 | 25 | 1 | 47 | 12 | - | - | - | 2 |
| Utah | 5 | 6 | - | - | - | - | - | - | - |
| Nev. | 98 | 50 | - | 14 | 9 | - | - | - | 1 |
| PACIFIC | 833 | 1,259 | 13 | 538 | 595 | 2 | 19 | - | 80 |
| Wash. | 27 | 37 | - | 37 | 26 | - | - | - | - |
| Oreg. | 47 | 45 | - | 19 | 23 | - | - | - | - |
| Calif. | 754 | 1,171 | 12 | 446 | 512 | 2 | 19 | - | 45 |
| Alaska | 1 | - | - | 8 | 7 | - | - | - | 35 |
| Hawaii | 4 | 6 | 1 | 28 | 27 | - | - | - | - |
| Guam | - | - | - | - | - | - | - | - | - |
| P.R. | 81 | 103 | - | 37 | 33 | - | - | - | 8 |
| V.I. | 1 | 1 | - | - | 1 | - | - | - | - |
| Amer. Samoa | - | - | - | - | 2 | - | - | - | - |
| C.N.M.I. | - | 1 | - | - | 2 | - | - | - | - |

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
March 4, 1989 (9th Week)

| Reporting Area | All Causes, By Age (Years) | | | | | | PAI** Total | Reporting Area | All Causes, By Age (Years) | | | | | | PAI** Total |
|----------------------|----------------------------|-------|-------|-------|------|----|----------------|-------------------------|----------------------------|-------|-------|-------|------|-----|----------------|
| | All Ages | >65 | 45-64 | 25-44 | 1-24 | <1 | | | All Ages | >65 | 45-64 | 25-44 | 1-24 | <1 | |
| NEW ENGLAND | 680 | 467 | 139 | 42 | 15 | 17 | 64 | S. ATLANTIC | 1,253 | 753 | 286 | 135 | 43 | 33 | 77 |
| Boston, Mass. | 108 | 116 | 43 | 16 | 5 | 8 | 23 | Atlanta, Ga. | 142 | 79 | 29 | 21 | 8 | 5 | 3 |
| Bridgeport, Conn. | 27 | 19 | 4 | 3 | 1 | - | 3 | Baltimore, Md. | 181 | 107 | 55 | 11 | 7 | 1 | 14 |
| Cambridge, Mass. | 16 | 11 | 5 | - | - | - | 3 | Charlotte, N.C. | 88 | 63 | 20 | 3 | 1 | 1 | 8 |
| Fall River, Mass. | 34 | 29 | 4 | 1 | - | - | 3 | Jacksonville, Fla. | 125 | 87 | 19 | 11 | 7 | 1 | 5 |
| Hartford, Conn. | 82 | 54 | 18 | 5 | 2 | 3 | 6 | Miami, Fla. | 128 | 61 | 34 | 28 | 3 | 2 | 1 |
| Lynn, Mass. | 32 | 22 | 8 | - | 1 | 1 | 2 | Norfolk, Va. | 53 | 33 | 12 | 7 | - | 1 | 2 |
| New Bedford, Mass. | 14 | 13 | 1 | - | - | - | 1 | Richmond, Va. | 76 | 48 | 20 | 5 | 1 | 2 | 12 |
| New Haven, Conn. | 44 | 31 | 3 | 4 | 4 | 2 | 5 | Savannah, Ga. | 55 | 38 | 13 | 4 | - | - | 10 |
| Providence, R.I. | 58 | 40 | 14 | 4 | - | - | 2 | St. Petersburg, Fla. | 88 | 75 | 5 | 3 | 2 | 8 | 9 |
| Somerville, Mass. | 8 | 4 | 4 | - | - | - | 2 | Tampa, Fla. | 76 | 47 | 16 | 7 | 1 | 3 | 9 |
| Springfield, Mass. | 49 | 32 | 12 | 3 | 2 | - | 5 | Washington, D.C. | 215 | 98 | 56 | 33 | 12 | 15 | 5 |
| Waterbury, Conn. | 38 | 28 | 6 | 3 | - | 1 | 4 | Wilmington, Del. | 26 | 17 | 7 | 2 | - | - | - |
| Worcester, Mass. | 61 | 46 | 13 | - | - | 2 | 9 | E.S. CENTRAL | 871 | 585 | 179 | 56 | 26 | 25 | 60 |
| MID. ATLANTIC | 2,994 | 2,022 | 546 | 291 | 80 | 73 | 206 | Birmingham, Ala. | 142 | 92 | 22 | 14 | 6 | 8 | 1 |
| Albany, N.Y. | 65 | 46 | 12 | 4 | 1 | 2 | 5 | Chattanooga, Tenn. | 75 | 52 | 12 | 6 | 2 | 3 | 6 |
| Allentown, Pa. | 21 | 17 | 2 | 2 | - | - | 2 | Knoxville, Tenn. | 90 | 62 | 18 | 4 | 4 | 2 | 9 |
| Burlington, N.Y. | 100 | 71 | 20 | 7 | - | 2 | 11 | Louisville, Ky. | 151 | 99 | 31 | 8 | 4 | 9 | 10 |
| Camden, N.J. | 49 | 39 | 5 | 3 | 1 | 1 | 4 | Memphis, Tenn. | 142 | 89 | 39 | 9 | 4 | 1 | 18 |
| Elizabeth, N.J. | 37 | 26 | 8 | 4 | - | - | 3 | Mobile, Ala. | 73 | 54 | 13 | 3 | 2 | 1 | 5 |
| Erie, Pa. | 47 | 39 | 6 | 1 | - | 1 | 4 | Montgomery, Ala. | 59 | 43 | 12 | 2 | 2 | - | 1 |
| Jersey City, N.J. | 59 | 48 | 6 | 3 | - | 2 | 4 | Nashville, Tenn. | 139 | 94 | 32 | 10 | 2 | 1 | 10 |
| N.Y. City, N.Y. | 1,533 | 997 | 280 | 176 | 38 | 42 | 81 | W.S. CENTRAL | 1,750 | 1,122 | 358 | 170 | 58 | 42 | 71 |
| Newark, N.J. | 82 | 48 | 15 | 10 | 3 | 6 | 4 | Austin, Tex. | 73 | 47 | 15 | 3 | 5 | 2 | 2 |
| Paterson, N.J. | 32 | 20 | 4 | 7 | 1 | - | 4 | Baton Rouge, La. | 31 | 18 | 7 | 4 | - | 2 | - |
| Philadelphia, Pa. | 412 | 251 | 100 | 37 | 11 | 11 | 29 | Corpus Christi, Tex. | 48 | 37 | 10 | 1 | - | - | 1 |
| Pittsburgh, Pa. | 85 | 60 | 11 | 11 | 1 | 2 | 12 | Dallas, Tex. | 217 | 130 | 41 | 31 | 10 | 5 | 3 |
| Reading, Pa. | 42 | 35 | 7 | - | - | - | 8 | El Paso, Tex. | 65 | 48 | 11 | 4 | 2 | - | 7 |
| Rochester, N.Y. | 138 | 104 | 25 | 5 | 3 | 1 | 14 | Fort Worth, Tex. | 130 | 92 | 26 | 5 | 4 | 3 | 10 |
| Schenectady, N.Y. | 42 | 37 | 3 | 2 | - | - | 1 | Houston, Tex. | 734 | 436 | 169 | 89 | 24 | 16 | 18 |
| Schenectady, N.Y. | 33 | 27 | 4 | 1 | 1 | - | 3 | Little Rock, Ark. | 65 | 48 | 6 | 6 | 1 | 4 | 8 |
| Syracuse, N.Y. | 100 | 72 | 24 | 4 | - | - | 11 | New Orleans, La. | 88 | 60 | 16 | 7 | 4 | 1 | - |
| Trenton, N.J. | 60 | 37 | 9 | 12 | - | 2 | 3 | San Antonio, Tex. | 177 | 115 | 36 | 15 | 5 | 6 | 8 |
| Utica, N.Y. | 28 | 24 | 2 | - | - | - | 2 | Shreveport, La. | 38 | 27 | 8 | 1 | 1 | 1 | 3 |
| Yonkers, N.Y. | 31 | 24 | 5 | 2 | - | - | 5 | Tulsa, Okla. | 84 | 64 | 12 | 4 | 2 | 2 | 11 |
| E.N. CENTRAL | 2,589 | 1,715 | 561 | 166 | 67 | 80 | 144 | MOUNTAIN | 777 | 525 | 161 | 55 | 19 | 16 | 48 |
| Akron, Ohio | 54 | 39 | 8 | 4 | 1 | 2 | 2 | Albuquerque, N. Mex. | 79 | 44 | 24 | 9 | - | 1 | 3 |
| Canton, Ohio | 58 | 41 | 11 | 5 | 1 | - | 3 | Colorado Springs, Colo. | 57 | 33 | 15 | 6 | 3 | - | 10 |
| Chicago, Ill. | 564 | 362 | 125 | 45 | 10 | 22 | 16 | Denver, Colo. | 122 | 97 | 16 | 6 | 1 | 2 | 9 |
| Cincinnati, Ohio | 191 | 124 | 46 | 8 | 5 | 8 | 20 | Las Vegas, Nev. | 121 | 78 | 29 | 10 | 3 | 1 | 8 |
| Cleveland, Ohio | 166 | 105 | 33 | 16 | 6 | 6 | 5 | Ogden, Utah | 23 | 15 | 6 | 2 | - | 3 | 3 |
| Columbus, Ohio | 174 | 118 | 33 | 13 | 6 | 4 | 12 | Phoenix, Ariz. | 150 | 98 | 27 | 14 | 5 | 6 | 10 |
| Dayton, Ohio | 134 | 83 | 31 | 9 | 7 | - | 12 | Pueblo, Colo. | 25 | 17 | 6 | 1 | - | 1 | 1 |
| Detroit, Mich. | 278 | 166 | 60 | 30 | 13 | 9 | 12 | Salt Lake City, Utah | 69 | 40 | 16 | 4 | 5 | 4 | 1 |
| Evansville, Ind. | 48 | 34 | 8 | 1 | - | 5 | 4 | Tucson, Ariz. | 131 | 103 | 22 | 3 | 2 | 1 | 3 |
| Fort Wayne, Ind. | 85 | 42 | 14 | 5 | 2 | 2 | 4 | PACIFIC | 2,370 | 1,619 | 423 | 212 | 53 | 55 | 231 |
| Gary, Ind. | 16 | 6 | 9 | 1 | - | - | 1 | Berkeley, Calif. | 22 | 14 | 4 | 2 | 1 | 1 | - |
| Grand Rapids, Mich. | 51 | 41 | 7 | 1 | - | 2 | 8 | Fresno, Calif. | 74 | 51 | 9 | 9 | 2 | 3 | 5 |
| Indianapolis, Ind. | 214 | 140 | 57 | 8 | 4 | 5 | 4 | Glendale, Calif. | 37 | 31 | 5 | 1 | - | - | 3 |
| Madison, Wis. | 37 | 26 | 9 | 1 | - | 1 | 3 | Honolulu, Hawaii | 81 | 55 | 16 | 6 | - | 4 | 13 |
| Milwaukee, Wis. | 139 | 97 | 32 | 7 | 1 | 2 | 5 | Long Beach, Calif. | 109 | 73 | 20 | 10 | 2 | 4 | 11 |
| Peoria, Ill. | 80 | 40 | 10 | - | 4 | 6 | 7 | Los Angeles, Calif. | 671 | 458 | 111 | 68 | 19 | 7 | 51 |
| Rockford, Ill. | 55 | 35 | 12 | 6 | 2 | - | 12 | Oakland, Calif. | 105 | 66 | 21 | 11 | 5 | 2 | 8 |
| South Bend, Ind. | 60 | 48 | 9 | 2 | 1 | - | 3 | Pasadena, Calif. | 35 | 23 | 7 | 1 | 2 | 3 | 1 |
| Toledo, Ohio | 148 | 99 | 34 | 8 | 4 | 3 | 20 | Portland, Ore. | 128 | 80 | 18 | 15 | 1 | 4 | 10 |
| Youngstown, Ohio | 77 | 59 | 13 | 2 | - | 3 | 3 | Sacramento, Calif. | 208 | 145 | 40 | 14 | 7 | 2 | 34 |
| W.N. CENTRAL | 918 | 666 | 158 | 43 | 30 | 21 | 72 | San Diego, Calif. | 215 | 147 | 33 | 21 | 4 | 10 | 36 |
| Des Moines, Iowa | 62 | 51 | 10 | - | - | 1 | 5 | San Francisco, Calif. | 197 | 130 | 43 | 20 | 2 | 2 | 18 |
| Duluth, Minn. | 19 | 17 | 1 | - | 1 | - | 2 | San Jose, Calif. | 201 | 132 | 44 | 14 | 5 | 6 | 25 |
| Kansas City, Kans. | 37 | 23 | 7 | 4 | 2 | 1 | 3 | Seattle, Wash. | 166 | 116 | 30 | 14 | 2 | 4 | 1 |
| Kansas City, Mo. | 135 | 95 | 22 | 5 | 9 | 4 | 14 | Spokane, Wash. | 60 | 43 | 13 | 3 | 1 | - | 5 |
| Lincoln, Neb. | 39 | 33 | 5 | - | 1 | - | 5 | Tacoma, Wash. | 81 | 45 | 9 | 3 | - | 4 | 10 |
| Minneapolis, Minn. | 244 | 175 | 37 | 17 | 10 | 5 | 22 | TOTAL | 14,202 ^{††} | 9,474 | 2,811 | 1,170 | 371 | 362 | 973 |
| Omaha, Neb. | 107 | 71 | 27 | 3 | 2 | 4 | 10 | | | | | | | | |
| St. Louis, Mo. | 168 | 129 | 28 | 8 | 2 | 3 | 9 | | | | | | | | |
| St. Paul, Minn. | 80 | 52 | 17 | 5 | 3 | 2 | 2 | | | | | | | | |
| Wichita, Kans. | 27 | 20 | 6 | 1 | - | - | - | | | | | | | | |

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

‡Data not available. Figures are estimates based on average of past available 4 weeks.

Scombroid Fish Poisoning — Continued

report. Investigation failed to reveal evidence of improper storage. Experimental studies indicate that histamine formation is low at refrigerator temperatures and negligible in fish stored at $\leq 32^\circ\text{F}$ ($\leq 0^\circ\text{C}$) (2). As these outbreaks demonstrate, cooking toxic fish is not protective. Therefore, the key to prevention of scombroid poisoning is continuous icing or refrigeration of all potentially scombrotoxic fish from the time they are caught until they are cooked.

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*Current Trends***Results from the National Adolescent Student Health Survey**

The National Adolescent Student Health Survey (NASHS)*, conducted in 1987, is the first national survey since the 1960s to assess both the extent to which adolescent students in the United States may be at risk for several important health problems and their perceptions of these risks. Survey findings provide a national profile of adolescent students' health-related knowledge, beliefs, and behaviors. The survey addressed specific health-related topics for which little or no data exist: unintentional injuries; fighting and violence; suicide; use of tobacco, alcoholic beverages, and drugs; acquired immunodeficiency syndrome (AIDS); sexually transmitted diseases (STDs); nutrition and eating habits; and use of health products and services. Highlights from each of these areas follow.

The survey was administered to eighth- and 10th-grade students in randomly selected classrooms chosen from a national probability sample of 217 schools in 20 states. Trained survey administrators collected data from 11,419 students in an average of three randomly selected classes at each participating school. All students were asked to respond to demographic and behavioral items.

Parents were advised of the content and purpose of the study and could exclude their child from participation. Overall, 9% of the selected students were absent on the day of administration, and 3% were present but did not participate. Sample estimates for each grade and sex are accurate to within 3.5 percentage points with 90% confidence.

*The survey was initiated by the Association for the Advancement of Health Education, American School Health Association, and the Society for Public Health Education; supported by the U.S. Department of Health and Human Services; and conducted by a contractor under the supervision of a steering committee.

Adolescent Health Survey — Continued

Unintentional Injuries. Fifty-six percent of the students indicated they had not worn a seat belt the last time they rode in a car, truck, or van. Forty-four percent of the 10th-grade students and 32% of the eighth-grade students reported having ridden during the past month with a driver who had used alcohol or other drugs before driving.

Fighting and Violence. Forty-nine percent of the boys and 28% of the girls reported having been in at least one physical fight during the past year; 34% of all respondents reported they had been threatened, and 14%, robbed. Thirteen percent of the respondents reported having been physically attacked during the past year while at school or on a school bus, and 16%, having been attacked outside of school during the past year. Six percent of the girls reported that during the past year someone had tried to force them to have sex at school, and 19% reported that during the past year someone had tried to force them to have sex outside of school.

Twenty-three percent of the boys said they had carried a knife at least once during the past year, and 7%, daily. Three percent of the boys said they carried a handgun to school at least once during the past year; 1%, daily. Sixty-four percent of the boys and 19% of the girls reported having used a handgun, rifle, or shotgun for any reason (including hunting or target shooting) in the past year.

Suicide. Twenty-five percent of the boys and 42% of the girls reported they had, at some time during their lives, seriously considered committing suicide. Eighteen percent of the girls and 11% of the boys reported they had actually tried to injure themselves in a way that might have resulted in their death.

Tobacco, Alcoholic Beverages, and Drugs. Fifty-one percent of the eighth-graders and 63% of the 10th-graders reported they had tried smoking tobacco. Thirty-one percent of all respondents reported they had smoked their first cigarette by sixth grade. Sixteen percent of the eighth-graders and 26% of the 10th-graders said they were current smokers (i.e., they had smoked at least once in the preceding month). Two percent of the eighth-graders and 6% of the 10th-graders reported they smoked more than one pack a week.

Seventy-seven percent of the eighth-graders and 89% of the 10th-graders said they had used alcohol; 31% of all respondents said they had used it before or during sixth grade. Twenty-six percent of the eighth-graders and 38% of the 10th-graders reported having had five or more drinks on one occasion during the past 2 weeks.

Fifteen percent of eighth-graders and 35% of 10th-graders said they had used marijuana; approximately 5% of eighth-graders and 15% of 10th-graders reported having used marijuana in the past month. Four percent of eighth-graders and 8% of 10th-graders reported having used cocaine.

AIDS. Ninety-four percent of the respondents believed that having sexual intercourse with someone who has human immunodeficiency virus (HIV) ("AIDS virus") increases the likelihood of becoming infected with the virus; 91% believed that sharing drug needles increases the likelihood of becoming infected; and 86% believed that using condoms during sex decreases the likelihood of becoming infected. However, 47% of the respondents believed that "donating blood" increases the likelihood of becoming infected with HIV, and 51% were either unsure or believed that "washing after having sex" decreases the likelihood of becoming infected.

STDs. Sixty-seven percent of the students knew that "a sore on the sex organs" is one of the "common early signs of STD," and 59% knew that pain when urinating ("going to the bathroom") is another such sign. Fifty-seven percent knew that it is

Adolescent Health Survey — Continued

harmful to "wait to see if the signs [of STD] go away on their own." About 45% knew that taking birth-control pills is ineffective in preventing STDs, and 33% knew that washing after having sex is ineffective.

Nutrition and Eating Habits. Thirty-two percent of the boys and 48% of the girls reported having eaten breakfast on ≤ 2 days during the past week. Eighteen percent reported eating fried foods at least once a day. Over twice as many girls (61%) as boys (28%) reported having dieted during the past year. Of the students who reported dieting, 16% said they had tried to control their weight with methods such as diet pills, 12%, by vomiting, and 8%, with laxatives. Seventy-one percent of the students reported they exercised or played sports vigorously enough to increase their breathing and pulse rates for 20 continuous minutes.

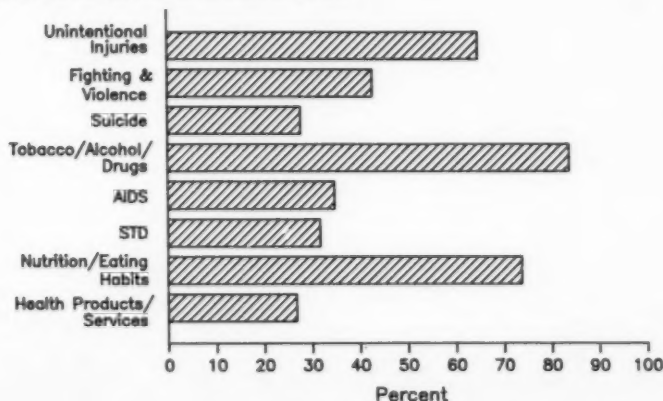
Health Products and Services. Forty-three percent of the students were able to determine from cereal box labels which ingredient was present in the largest amount; 53% could determine which cereal contained less sugar. Forty-two percent knew the meaning of the date stamped on dairy products.

Instruction Received. Respondents also reported whether they had received instruction in school (since the beginning of the seventh grade) on the various health areas covered by the survey. Most had received instruction on the effects of drugs and alcohol (84%), nutrition and choosing healthy foods (74%), and how to prevent unintentional injuries (65%) (Figure 1). Students also received instruction on ways to avoid fighting and violence (43%); on AIDS (35%); on STDs (32%); on suicide prevention (28%); and on selecting health products and services (27%).

Reported by: Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, National Institute on Drug Abuse; Alcohol, Drug Abuse, and Mental Health Administration. Div of Adolescent and School Health, Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Data from the NASHS describe the extent to which adolescents report engaging in behaviors that increase their risks for leading causes of morbidity and mortality in the United States. In 1987, among persons aged 1–24 years, approxi-

FIGURE 1. Percentage of students who reported having received instruction in school in each of the major health areas surveyed



Adolescent Health Survey — Continued

mately 68% of all deaths were due to only four causes: motor vehicle crashes (33%), other unintentional injuries (15%), homicide (10%), and suicide (10%)¹. Problems related to reproductive health and STDs are other major areas of concern: in 1987, an estimated 800,000 teenaged girls became pregnant unintentionally (1), and approximately 2.5 million teenagers had STDs (excluding infection by HIV) (2).

A limited number of behaviors usually established during youth contribute substantially to morbidity and mortality during youth and adulthood. These behaviors include failure to use seat belts, use of alcohol or other drugs, and sexual intercourse that results in unintended pregnancies and STD (including HIV infection).

Among all age groups combined in the United States, almost 60% of all deaths in 1987 were due to only two causes: diseases of the heart (36%) and malignant neoplasms (22%).² A limited number of behaviors, often established during youth, contribute to these health problems, which generally do not result in morbidity and mortality until adulthood. These behaviors include use of tobacco; excessive consumption of fat, calories, and sodium and insufficient consumption of fiber; and insufficient exercise.

U.S. schools may be able to contribute substantially to reducing morbidity and mortality from these preventable causes by assisting children and adolescents to develop the knowledge, beliefs, and skills necessary to avoid risk behaviors. National, state, and local school-based surveys like the NASHS could provide information about whether risk behaviors among adolescents are increasing, decreasing, or remaining the same over time and could provide information to assist in focusing school health programs.

More detailed information about the NASHS, including data tapes, can be obtained from Becky J. Smith, Ph.D., Project Director of NASHS, c/o American Alliance for Health, Physical Education, Recreation, and Dance, 1900 Association Drive, Reston, VA 22091.

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1. Hayes C, ed. *Risking the future: adolescent sexuality, pregnancy, and childbearing*. Vol I—Final report. Washington, DC: National Academy Press, 1987.
2. CDC. Center for Prevention Services, Division of Sexually Transmitted Diseases: annual report—FY 1988. Atlanta: US Department of Health and Human Services, Public Health Service, 1989.

¹Estimates are based on provisional data provided in CDC, National Center for Health Statistics (NCHS) *Monthly Vital Statistics Report*, volume 36, no. 13, July 29, 1988 (pp. 18–19) and 1987 population estimates from *Current Population Reports*, series P-25, no. 1022.

²Percentages are based on data provided by CDC, NCHS, in *Monthly Vital Statistics Report*, volume 37, no. 1, April 25, 1988 (p. 8).

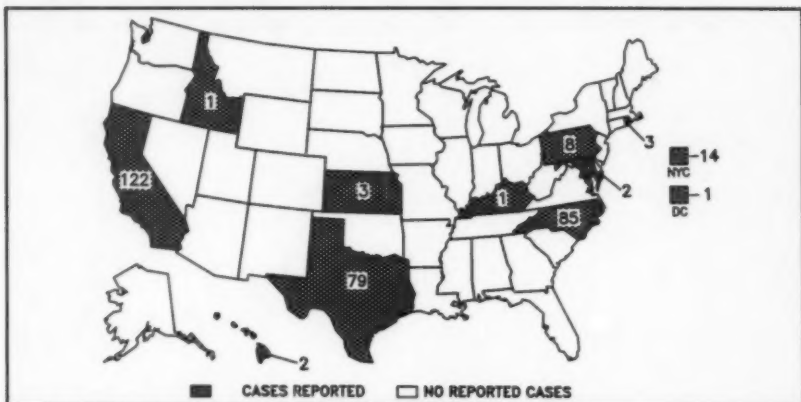
Notice to Readers**International Track of the Epidemic Intelligence Service Course**

CDC will conduct the International Track of the Epidemic Intelligence Service Course on June 26–July 21, 1989. This 4-week course is designed to provide participants with basic epidemiologic skills useful for their work in developing countries. Participants should have some epidemiology background or have current or future job responsibility related to epidemiologic activities in a developing country. Course announcements are available from International Liaison Division, International Health Program Office, Mailstop F03, CDC, Atlanta, GA 30333.

Erratum: Vol. 38, No. 7

- p. 102 The first sentence on the third line from the top of the page should begin "In 1987 . . ." instead of "In 1985 . . ."

FIGURE I. Reported measles cases — United States, Weeks 5–8, 1989



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333; telephone (404) 332-4555.

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